Boreal Chorus Frog

Nature's Call

An Activity Newsletter for Kids by Utah's Project WILD--Spring 1999

Tiger Salamander

Ribbit, Ribbit!

Spring has arrived! The air is filled with many sounds of life! Choruses of croaks, chirps, squeaks and peeps signal that hundreds or even thousands of frogs have gathered together at ponds everywhere to breed.

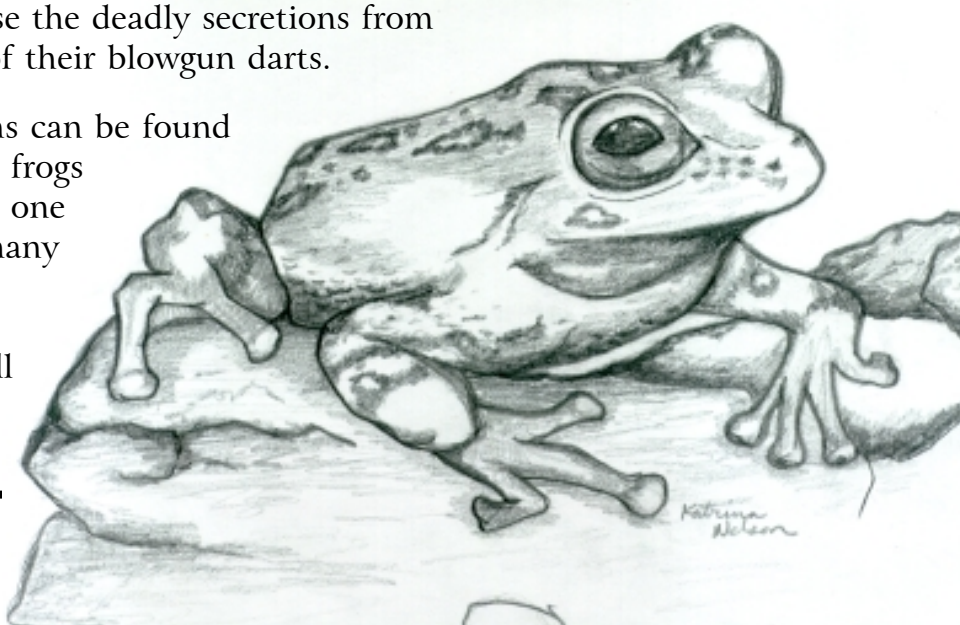
Frogs and their relatives, toads, salamanders, newts and caecilians (a worm-like burrowing critter) are all amphibians. The name amphibians comes from a Latin word, *amphibios,* which means "two lives." They were given this name because most amphibians spend part of their lives living in water and part on land. First clusters or strands of eggs are laid in a pond. The eggs hatch into young that breathe with gills and must live in water. The young then later transform into adult amphibians with lungs that can live on land. This process of change that happens in amphibians is called *metamorphosis*. Amphibians are the only *vertebrates* (animals with backbones) that undergo metamorphosis.

Amphibians are a very old group of animals. They first appeared on earth about 360 million years ago. Back then they were much bigger than the amphibians we know today. Some grew as large as 12 feet long. They were covered with bony plates for protection. Modern forms like the ones we see today showed up about 190 million years ago, way before the dinosaurs! These early amphibians were very successful. They spread to many parts of the world and lived in many habitats. Over time though, many went extinct. Today there are about 4,000 different kinds left.

Amphibians are noted for their slippery skins. Their skin is slippery because they have special glands that produce mucus. The mucus helps keep amphibians, which have very thin skin, from losing too much water. This is one adaptation that allows amphibians to live even in very dry deserts.

They also have special glands that produce milky, sticky poisons. These poisons taste bad to predators and help amphibians avoid being eaten. Some of the poisonous secretions are even deadly. Native Indians of South and Central American tropical rainforests have known this for a long time. They use the deadly secretions from poison arrow frogs to coat the tips of their blowgun darts.

Sixteen different kinds of amphibians can be found in Utah. There are eight toads, nine frogs (two which are not native) and only one salamander. Amphibians come in many shapes, sizes and colors. They also have many neat behaviors that help them survive. We sure hope you will have fun learning about many of these amazing amphibians!



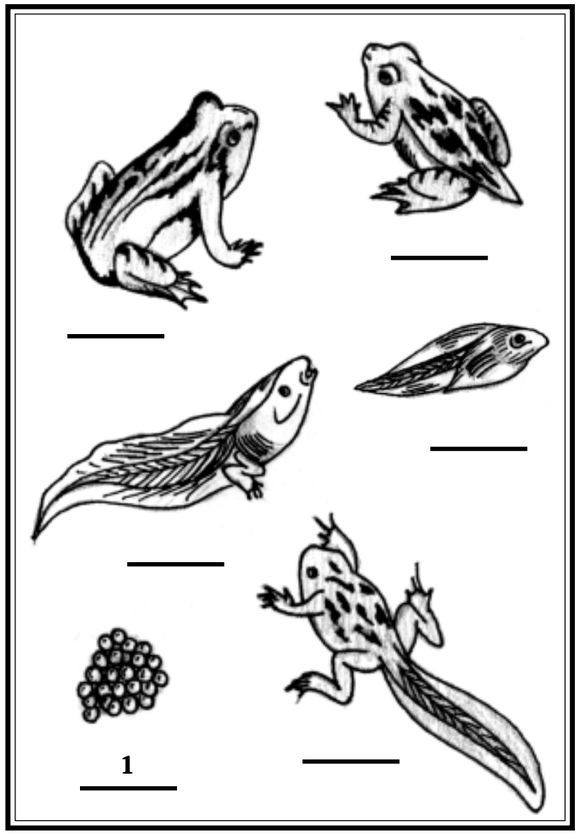
Miraculous Metamorphosis!

Metamorphosis is a big word that means change. In amphibians, it refers to the changes that frogs, toads and salamanders go through as they develop from an egg to an adult. Almost all amphibians lay eggs. Most lay their eggs in watery places like ponds, marshes, swamps, ditches or even in tiny puddles. The eggs are surrounded by a clear, jelly-like coating that helps protect the developing embryo. Most amphibians lay dozens or even thousands of eggs at a time. The eggs form big grape-like clusters or long tangled strands, and are often attached to aquatic plants in the pond.

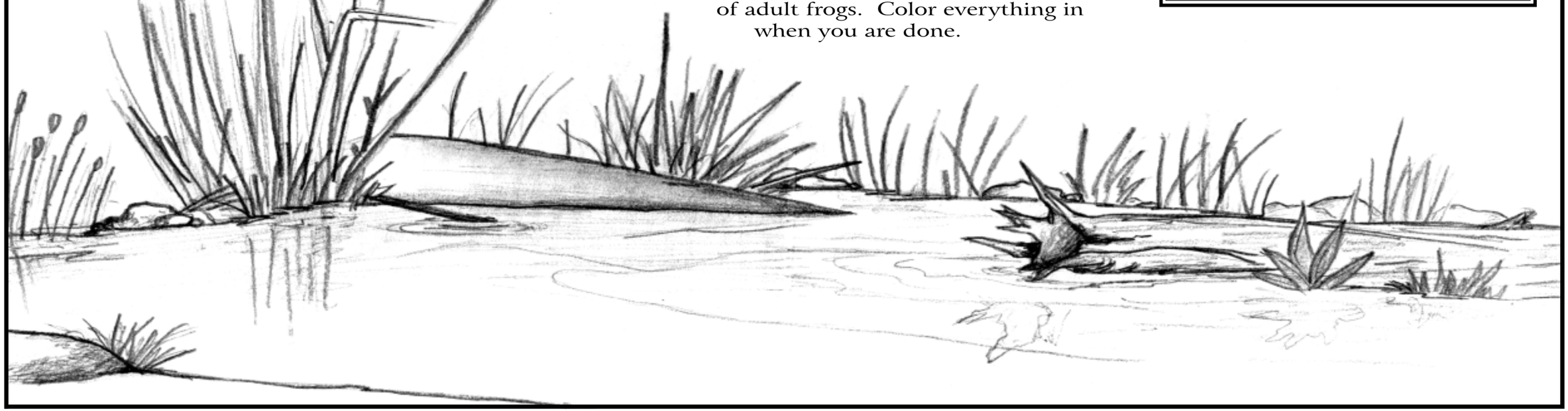
After about one or two days or up to several weeks (how long exactly depends on the particular species), the eggs hatch into tadpoles, the next phase of life. Tadpoles are like little fish with tails and gills for breathing. Tadpoles spend most of their time feeding on algae and growing larger. Usually, the more food there is the faster they grow. Water temperature can also play a part in how fast they grow.

During the next two months or so (again, how long depends on the species), the tadpoles transform into adult amphibians. During the process, major changes, both outside and inside, take place. Back legs and front legs grow, the tails shrink and finally disappear, the gills are replaced by air breathing lungs, and the mouths expand from small holes to gaping jaws with sticky tongues capable of swallowing large insects!

In the box on the right, look at the drawings of the different stages a frog would go through as it changes from an egg to an adult. They are not in order. Can you put them in the proper order? Place numbers below each stage to show the order in which they belong. For example, number "1" the eggs, which come first, is already done for you.



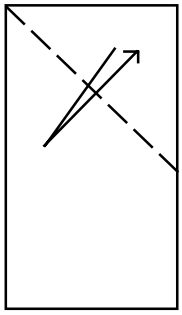
After you have finished putting them in the proper order, go to the pond below and draw some of your own frog eggs attached to plants in the pond, draw some tadpoles swimming in the water, and draw a couple of adult frogs. Color everything in when you are done.



Origami, the Japanese art of folding paper into three-dimensional figures, is an ancient craft. In the 16th century A.D. Buddhist monks traveling from China brought thin flat sheets of plant fiber to Japan. The Japanese called these thin sheets of plant fiber, *kami*, which means paper. Soon thereafter, folding (*ori,* in Japanese) squares of paper into representations of animals and people became a national tradition. Origami figures were crafted for ceremonies, decorations and as toys.

Follow the simple directions below to create your own origami frog, one that will even jump! After you have formed your frog, decorate it with markers or paint. To make your frog jump, place it on a flat surface and tap gently on the spot marked "X" on its back in the instructions (step 9) below.

Directions: Use a **3-inch x 5-inch index card**. Make folds along the dotted lines shown and fold in the direction indicated by the arrows. Make your creases carefully, matching corners as best as possible.



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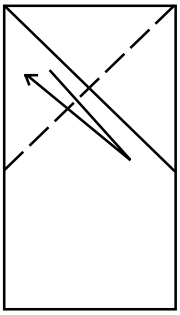

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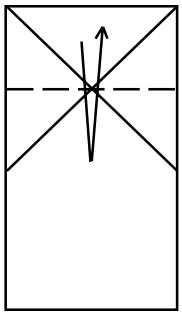

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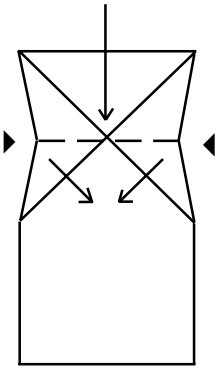
*** For steps 1-3, turn over the card and repeat each fold to make a better crease.**



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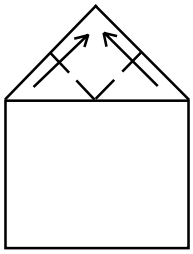

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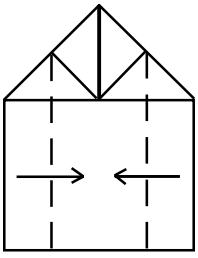

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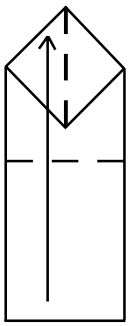

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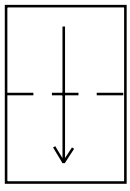

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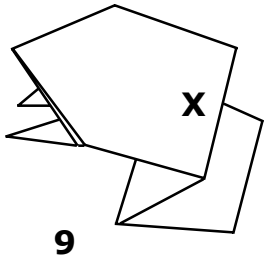

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